



CowCulling.ST25.txt
SEQUENCE LISTING

<110> ADViSYS

<120> GROWTH HORMONE RELEASING HORMONE ("GHRH") TREATMENT DECREASES CULLING IN HERD ANIMALS

<130> 108328.00170 - AVSI-0033

<140> 10/764,818

<141> 2004-01-26

<160> 30

<170> PatentIn version 3.1

<210> 1

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for HV-GHRH.

<400> 1

His Val Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 2

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for TI-GHRH.

<400> 2

Tyr Ile Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 3

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for TV-GHRH.

CowCulling.ST25.txt

<400> 3

Tyr Val Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 4

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for 15/27/28-GHRH.

<400> 4

Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 5

<211> 44

<212> PRT

<213> artificial sequence

<220>

<223> Consensus sequence for GHRH

<400> 5

Thr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln Gly
20 25 30

Glu Ser Asn Gln Glu Arg Gly Ala Arg Ala Arg Leu
35 40

<210> 6

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Artificial sequence for GHRH (1-40)OH.

<220>
<221> MISC_FEATURE

CowCulling.ST25.txt

<222> (1)..(1)
<223> Xaa at position 1 may be tyrosine, or histidine

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa at position 2 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa at position 15 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> Xaa at position 27 may be methionine, or leucine.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa at position 28 may be serine or asparagine.

<400> 6

Xaa Xaa Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Xaa Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Xaa Xaa Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 7
<211> 323
<212> DNA
<213> artificial sequence

<220>
<223> Eukaryotic promoter c5-12.

<400> 7
cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg gtgaggaatg 60
gtggggagtt attttagag cggtgaggaa ggtggcagg cagcaggtgt tggcgctcta 120
aaaataactc cccggagttt ttttagagc ggaggaatgg tggacaccca aatatggcga 180
cggttcctca cccgtcgcca tatttgggtg tccgcctcg gccggggccg cattcctggg 240
ggccgggccc tgctcccccc cgcctcgata aaaggctccg gggccggcgg cggcccacga 300
gctacccgga ggagcgggag gcg 323

<210> 8
<211> 190
<212> DNA
<213> artificial sequence

CowCulling.ST25.txt

<220>
<223> Nucleic acid sequence of a hGH poly A tail.

<400> 8
gggtggcatc cctgtgaccc ctccccagtg cctctcctgg cccttggaaagt tgccactcca 60
gtgcccacca gccttgcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc 120
ttctataata ttatgggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca 180
acctgttaggg 190

<210> 9
<211> 219
<212> DNA
<213> artificial sequence

<220>
<223> This is the cDNA for Porcine GHRH.

<400> 9
atggtgctct ggggtttctt ctttgtatc ctcaccctca gcaacagctc ccactgctcc 60
ccacccccc ctttgaccct caggatgcgg cggcacgtag atgccatctt caccaacagc 120
taccggaagg tgctggccca gctgtccgccc cgcaagctgc tccaggacat cctgaacagg 180
cagcagggag agaggaacca agagcaagga gcataatga 219

<210> 10
<211> 40
<212> PRT
<213> artificial sequence

<220>
<223> Amino acid sequence for porcine GHRH.

<400> 10
Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
35 40

<210> 11
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Sequence for the HV-GHRH plasmid.

<400> 11
gttgtaaaac gacggccagt gaattgtat acgactcact atagggcgaa ttggagctcc 60
accgcgggtgg cggccgtccg ccctcggcac catcctcactg acacccaaat atggcgacgg 120
gtgaggaatg gtggggagtt attttagag cggtgaggaa ggtggcagg cagcaggtgt 180

CowCulling.ST25.txt

tggcgctcta	aaaataactc	ccgggagtt	tttttagagc	ggaggaatgg	tggacaccca	240
aatatggcga	cggttcctca	ccgtcgcca	tatttgggtg	tccgcccctcg	gccggggccg	300
cattcctggg	ggccgggcgg	tgctcccgcc	cgcctcgata	aaaggctccg	gggcccggcgg	360
cggcccacga	gctacccgga	ggagcgggag	gcgccaagct	ctagaactag	tggatccaa	420
ggcccaactc	cccgaaccac	tcagggtcct	gtggacagct	cacctagctg	ccatggtgct	480
ctgggtgttc	ttctttgtga	tcctcaccct	cagcaacagc	tcccactgct	ccccacctcc	540
cccttgacc	ctcaggatgc	ggcggcacgt	agatgccatc	ttcaccaaca	gctaccggaa	600
ggtgctggcc	cagctgtccg	cccgcaagct	gctccaggac	atcctgaaca	ggcagcaggg	660
agagaggaac	caagagcaag	gagcataatg	actgcaggaa	ttcgatatac	agcttatcgg	720
ggtggcatcc	ctgtgacccc	tccccagtgc	ctctcctggc	cctggaaagtt	gccactccag	780
tgcccaccag	cttgtccta	ataaaaattaa	gttgcattcat	tttgtctgac	taggtgtcct	840
tctataatat	tatggggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	ggaaagacaa	900
cctgtagggc	ctgccccgtc	tattggaaac	caagctggag	tgcagtggca	caatcttggc	960
tcactgcaat	ctccgcctcc	tgggttcaag	cgattcct	gcctcagcc	cccgagttgt	1020
tgggattcca	ggcatgcatg	accaggctca	gctaattttt	gtttttttgg	tagagacggg	1080
gtttcaccat	attggccagg	ctggctcca	actcctaatac	tcaggtgatc	tacccacctt	1140
ggcctcccaa	attgctggga	ttacaggcgt	gaaccactgc	tcccttcct	gtccttctga	1200
ttttaaaata	actataccag	caggaggacg	tccagacaca	gcataggcta	cctggccatg	1260
cccaaccgg	gggacatttg	agttgcttc	ttggcactgt	cctctcatgc	gttgggtcca	1320
ctcagtagat	gcctgttga	ttcgataaccg	tcgacctcga	gggggggccc	ggtaccagct	1380
tttgttcct	ttagtgaggg	ttaatttgc	gcttggcgta	atcatggta	tagcttttc	1440
ctgtgtaaa	ttgttatccg	ctcacaattc	cacacaacat	acgagccgga	agcataaaagt	1500
gtaaagcctg	gggtgcctaa	tgagtgagct	aactcacatt	aattgcgttg	cgctcactgc	1560
ccgctttcca	gtcgggaaac	ctgtcgtgcc	agctgcatta	atgaatcg	caacgcgcgg	1620
ggagaggcgg	tttgcgtatt	gggcgcttt	ccgcttcctc	gctcaactgac	tcgctgcgct	1680
cggtcgttcg	gctgcggcga	gcggtatcag	ctcactcaa	ggcgtaata	cggttatcca	1740
cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaa	aggccagcaa	aaggccagga	1800
accgtaaaaa	ggccgcgtt	ctggcgttt	tccataggct	ccgccccct	gacgagcatc	1860
acaaaaatcg	acgctcaagt	cagaggtggc	gaaaccgcac	aggactataa	agataccagg	1920
cgtttccccc	tggaaagctcc	ctcgctgc	ctcctgttcc	gaccctgccg	cttaccggat	1980
acctgtccgc	ctttctccct	tcgggaagcg	tggcgcttcc	tcatagctca	cgctgttaggt	2040
atctcagttc	ggtgttaggtc	gttcgctcca	agctggctg	tgtgcacgaa	ccccccgttc	2100
agcccgaccg	ctgcgcctta	tccgtaact	atcgcttga	gtccaacccg	gtaagacacg	2160
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgttaggcg	2220

CowCulling.ST25.txt

gtgctacaga	gttcttgaag	tggggccta	actacggcta	caactagaaga	acagtatttg	2280
gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaag	agttggtagc	tcttgcgtccg	2340
gcaaacaac	caccgctggt	agcgggtggtt	tttttgggg	caagcagcag	attacgcgc	2400
gaaaaaaaaagg	atctcaagaa	gatccttga	tctttctac	gggggtctgac	gctcagaaga	2460
actcgtcaag	aaggcgatag	aaggcgatgc	gctgcgaatc	gggagcggcg	ataccgtaaa	2520
gcacgaggaa	gcggtcagcc	cattcgccgc	caagctcttc	agcaatatca	cgggtagcca	2580
acgctatgtc	ctgatagcgg	tccgccacac	ccagccggcc	acagtcgtatg	aatccagaaa	2640
agcggccatt	ttccaccatg	atattcggca	agcaggcatc	gccatgggtc	acgacgagat	2700
cctcgccgtc	gggcatgcgc	gcctttagcc	tggcgaacag	ttcggctggc	gcgagccct	2760
gatgctcttc	gtccagatca	tcctgatcga	caagaccggc	ttccatccga	gtacgtgctc	2820
gctcgatgcg	atgttcgct	tgggtggcga	atgggcaggt	agccggatca	agcgtatgca	2880
gccgcccgt	tgcatcagcc	atgatggata	ctttctcggc	aggagcaagg	tgagatgaca	2940
ggagatcctg	ccccggcact	tcgcccata	gcagccagtc	ccttcccgt	tcagtgacaa	3000
cgtcgagcac	agctgcgaa	ggaacgcccc	tcgtggccag	ccacgatagc	cgcgtgcct	3060
cgtcctgcag	ttcattcagg	gcaccggaca	ggtcggctt	gacaaaaaga	accggggcgcc	3120
cctgcgctga	cagccggAAC	acggcgcat	cagagcagcc	gattgtctgt	tgtgcccagt	3180
catagccaa	tagcctctcc	acccaagcgg	ccggagaacc	tgcgtgcaat	ccatcttgtt	3240
caatcatgcg	aaacgatcct	catcctgtct	cttgcgtcaga	tcttgcgtccc	ctgcgccatc	3300
agatccttgg	cggtcaagaaa	gccatccagt	ttactttgca	gggcttccca	accttaccag	3360
agggcgcccc	agctggcaat	tccggttcgc	ttgctgtcca	taaaaccgccc	cagtctagca	3420
actgttggga	agggcgatcg	gtgcggccct	cttcgcattt	acgcccagctg	gcgaaagggg	3480
gatgtgcgtc	aaggcgattn	agttgggtaa	cgccagggtt	ttcccgatca	cgac	3534

<210> 12

<211> 3534

<212> DNA

<213> artificial sequence

<220>

<223> Sequence for the TI-GHRH plasmid.

<400> 12

gttgtaaaac	gacggccagt	gaattgtat	acgactcact	atagggcgaa	ttggagctcc	60
accgcgggtgg	cggccgtccg	ccctcggcac	catcctcact	acacccaaat	atggcgacgg	120
gtgaggaatg	gtggggagtt	attttttagag	cggtgaggaa	ggtggggcagg	cagcaggtgt	180
tggcgctcta	aaaataactc	ccgggagtt	tttttagagc	ggaggaatgg	tggacacccca	240
aatatggcga	cggttccctca	cccgatcgc	tatgggggtg	tccggccctcg	gccggggccg	300
cattcctggg	ggccgggcgg	tgctccgc	cgcctcgata	aaaggctccg	gggcccggcg	360
cggcccacga	gctacccgga	ggagcgggag	gcccggccgt	ctagaactag	tggatcccaa	420

CowCulling.ST25.txt

ggcccaactc	cccgaaccac	tcagggcct	gtggacagct	cacctagctg	ccatggtgc	480
ctgggtgttc	ttctttgtga	tcctcaccct	cagcaacagc	tcccactgct	ccccacctcc	540
cccttgcacc	ctcaggatgc	ggcggtatata	cgatgccatc	ttcaccaaca	gctaccggaa	600
ggtgctggcc	cagctgtccg	cccgcagact	gctccaggac	atcctgaaca	ggcagcaggg	660
agagaggaac	caagagcaag	gagcataatg	actgcagggaa	ttcgatatac	agcttatacg	720
ggtggcatcc	ctgtgacccc	tccccagtgc	ctctcctggc	cctggaagtt	gccactccag	780
tgcccaccag	ccttgccta	ataaaattaa	gttgcatacat	tttgtctgac	tagtgtcct	840
tctataatata	tatggggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	ggaaagacaa	900
cctgtaggc	ctgcggggc	tattgggaac	caagctggag	tgcagtggca	caatcttgc	960
tcactgcaat	ctccgcctcc	tgggttcaag	cgattctcct	gcctcagcct	cccgagttgt	1020
tgggattcca	ggcatgcatt	accaggctca	gctaattttt	gttttttgg	tagagacggg	1080
gtttcaccat	attggccagg	ctggcttcca	actcctaattc	tcaggtgatc	tacccacctt	1140
ggcctcccaa	attgctggga	ttacaggcgt	gaaccactgc	tcccttcct	gtccttctga	1200
ttttaaaata	actataaccag	caggaggacg	tccagacaca	gcataaggcta	cctggccatg	1260
cccaaccgg	gggacattt	agttgcttgc	ttggcactgt	cctctcatgc	gttgggtcca	1320
ctcagtagat	gcctgttga	ttcgataaccg	tcgacctcga	gggggggccc	ggtaccagct	1380
tttgccttcc	ttagtgaggg	ttaatttca	gcttggcgta	atcatggtca	tagctttc	1440
ctgtgtgaaa	ttgttatccg	ctcacaattc	cacacaacat	acgagccgga	agcataaaagt	1500
gtaaaggcctg	gggtgcctaa	tgagtgagct	aactcacatt	aattgcgtt	cgctcactgc	1560
ccgctttcca	gtcgggaaac	ctgtcgtgcc	agctgcattt	atgaatcg	caacgcgcgg	1620
ggagaggcgg	tttgcgtatt	gggcgtctt	ccgcttcctc	gctcaactgac	tcgctgcgt	1680
cggtcgttcg	gctgcggcga	gcggtatcag	ctcactaaa	ggcgtaata	cggttatcca	1740
cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaa	aggccagcaa	aaggccagga	1800
accgtaaaaaa	ggccgcgtt	ctggcgttt	tccataggct	ccgccccct	gacgagcatc	1860
acaaaaatcg	acgctcaagt	cagaggtggc	gaaacccgac	aggactataa	agataccagg	1920
cgtttcccc	tggaagctcc	ctcgtgcgt	ctcctgttcc	gaccctgccc	cttaccggat	1980
acctgtccgc	ctttctccct	tcggaaagcg	tggcgctt	tcatagctca	cgctgttaggt	2040
atctcagtcc	ggtgttaggt	gttcgttcca	agctggctg	tgtgcacgaa	ccccccgttc	2100
agcccgaccg	ctgcgcctt	tccgtaact	atcgcttga	gtccaacccg	gtaagacacg	2160
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgttaggc	2220
gtgctacaga	gttcttgaag	tggtggccta	actacggcta	cactagaaga	acagtattt	2280
gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaag	agttggtagc	tcttgcaccc	2340
gcaaacaaac	caccgctgg	agcggtggtt	ttttgtttt	caagcagcag	attacgcgc	2400
aaaaaaaagg	atctcaagaa	gatccttga	tctttctac	gggtctgac	gctcagaaga	2460

CowCulling.ST25.txt

actcgtaag aaggcgata	2520
gcacgaggaa gcggtcagcc	2580
acgctatgtc ctgatagcg	2640
agcggccatt ttccaccatg	2700
cctcgccgtc gggcatgcgc	2760
gatgctcttc gtccagatca	2820
gctcgatgcg atgttcgct	2880
gccgcgcat tgcatcagcc	2940
ggagatcctg ccccgca	3000
cgtcgagcac agctgcgca	3060
cgtcctgcag ttcattcagg	3120
cctgcgctga cagccggaac	3180
catagccgaa tagcctctcc	3240
caatcatgcg aaacgatcct	3300
agatccttgg cggcaagaaa	3360
agggcgcccc agctggcaat	3420
actgttggga agggcgatcg	3480
gatgtgctgc aaggcgatta	3534

<210> 13
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the TV-GHRH plasmid.

<400> 13	
gttgtaaaac gacggccagt	60
accgcggtgg cggccgtccg	120
gtgaggaatg gtggggagtt	180
tggcgctcta aaaataactc	240
aatatggcga cgggtcctca	300
cattcctggg ggccgggccc	360
cggcccacga gctacccgga	420
ggcccaactc cccgaaccac	480
ctgggtgttc ttctttgtga	540
ccctttgacc ctcaggatgc	600
ggtgctggcc cagctgtccg	660

CowCulling.ST25.txt

agagaggaac	caagagcaag	gagcataatg	actgcagggaa	ttcgatcatca	agcttatcg	720
ggtggcatcc	ctgtgacccc	tccccagtgc	ctctcctggc	cctggaaagt	gccactccag	780
tgcccaccag	ccttgcctta	ataaaattaa	gttgcattat	tttgtctgac	taggtgtcct	840
tctataat	tatggggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	ggaaagacaa	900
cctgttagggc	ctgcggggtc	tattggaaac	caagctggag	tgcagtggca	caatcttggc	960
tcactgcaat	ctccgcctcc	tgggttcaag	cgattctcct	gcctcagcct	cccagttgt	1020
tgggattcca	gcatgcatt	accaggctca	gctaattttt	gttttttgg	tagagacggg	1080
gtttcaccat	attggccagg	ctggcttcca	actcctaattc	tcaggtgatc	tacccacctt	1140
ggcctcccaa	attgctggga	ttacaggcgt	gaaccactgc	tcccttcctt	gtccttctga	1200
ttttaaaata	actataaccag	caggaggacg	tccagacaca	gcataggcta	cctggccatg	1260
cccaaccgg	gggacattt	gatgtctgc	ttggcactgt	cctctcatgc	gttgggtcca	1320
ctcagtagat	gcctgttga	ttcgataccg	tcgacctcga	ggggggggccc	gttaccagct	1380
tttgcctt	ttagtgaggg	ttaatttcga	gcttggcgta	atcatggtca	tagctgttcc	1440
ctgtgtgaaa	ttgttatccg	ctcacaattc	cacacaacat	acgagccgga	agcataaaagt	1500
gtaaagcctg	gggtgcctaa	tgagtgagct	aactcacatt	aattgcgtt	cgctca	1560
ccgcttcca	gtcggaaac	ctgtcgtgcc	agctgcatt	atgaatcg	caacgcgcgg	1620
ggagaggcgg	tttgcgtatt	gggcgtctt	ccgcttcctc	gctca	tcgctgcgt	1680
cggtcgttcg	gctgcggcga	gcggtatcag	ctcactaaa	ggcgtaata	cggtatcca	1740
cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaa	aggccagca	aaggccagga	1800
accgtaaaaa	ggccgcgtt	ctggcg	tccataggct	ccgccccct	gacgagcatc	1860
acaaaaatcg	acgctcaagt	cagaggtggc	gaaaccgac	aggactataa	agataccagg	1920
cgttcccccc	tgaaagctcc	ctcgtgcgt	ctcctgttcc	gaccctgccc	cttaccggat	1980
acctgtccgc	cttctccct	tcggaaagcg	tggcgctt	tcatagctca	cgctgttagt	2040
atctcagtcc	ggtgttaggt	gttcgc	agctggctg	tgtgcacgaa	ccccccgttc	2100
agcccgaccg	ctgcgcctt	tccggttaact	atcg	tta	gtccaaacccg	2160
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgttaggcg	2220
gtgctacaga	gttcttgaag	tggggccta	actacggcta	cactagaaga	acagtattt	2280
gtatctgcgc	tctgtgaag	ccagttac	tcggaaaaag	agttggtagc	tcttgc	2340
gcaaacaac	caccgctggt	agcggtggtt	ttttgttt	caagcagcag	attacgcgc	2400
gaaaaaaaaagg	atctcaagaa	gatc	tttgc	gggtctgac	gctcagaaga	2460
actcgtcaag	aaggcgatag	aaggcgatgc	gctgcgaatc	gggagcggcg	ataccgtaaa	2520
gcacgaggaa	gcggtcagcc	cattcgccgc	caagcttcc	agcaat	atca	2580
acgctatgtc	ctgatagcgg	tccgac	ccagccggcc	acagtcgatg	aatccagaaa	2640
agcggccatt	ttccaccatg	atattcggca	agcaggcattc	gccatgggtc	acgacgagat	2700

CowCulling.ST25.txt

cctcgccgtc	gggcatgcgc	gccttgagcc	tggcgaacag	ttcggctggc	gcgagccct	2760
gatgctttc	gtccagatca	tcctgatcga	caagaccggc	ttccatccga	gtacgtgctc	2820
gctcgatgct	atgtttcgct	tggtggtcga	atgggcaggt	agccggatca	agcgtatgca	2880
gccgcccata	tgcatcagcc	atgatggata	ctttctcggc	aggagcaagg	tgagatgaca	2940
ggagatcctg	ccccggcact	tcgccaata	gcagccagtc	ccttcccgt	tcagtgacaa	3000
cgtcgagcac	agctgcgcaa	ggaacgccc	tcgtggccag	ccacgatagc	cgcgctgcct	3060
cgtcctgcag	ttcattcagg	gcaccggaca	ggtcggtctt	gacaaaaaga	accggcgcc	3120
cctgcgctga	cagccggaac	acggcggcat	cagagcagcc	gattgtctgt	tgtcccagt	3180
catagccgaa	tagcctctcc	acccaagcgg	ccggagaacc	tgcgtgcaat	ccatcttgtt	3240
caatcatgcg	aaacgatcct	catcctgtct	cttgatcaga	tcttgatccc	ctgcgccatc	3300
agatccttgg	cggcaagaaa	gccatccagt	ttactttgca	gggcttccca	accttaccag	3360
agggcgcccc	agctggcaat	tccgggtcgc	ttgctgtcca	taaaaccgcc	cagtctagca	3420
actgttggga	agggcgatcg	gtgcgggcct	cttcgctatt	acgcccagctg	gcgaaagggg	3480
gatgtgctgc	aaggcgat	taa agttgggtaa	cgccagggtt	ttcccagtca	cgac	3534

<210> 14
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Sequence for the 15/27/28 GHRH plasmid.

<400> 14	gttgtaaaac	gacggccagt	gaattgtat	acgactcact	atagggcgaa	ttggagctcc	60
	accgcggtgg	cggccgtccg	ccctcggcac	catcctcact	acacccaaat	atggcgacgg	120
	gtgaggaatg	gtggggagtt	attttagag	cggtgaggaa	ggtgggcagg	cagcaggtgt	180
	tggcgtctca	aaaataactc	ccggagttt	tttttagagc	ggaggaatgg	tggacaccca	240
	aatatggcga	cggttcctca	cccgtcgcca	tatttgggtg	tccgcccctcg	gccggggccg	300
	cattcctggg	ggccgggcgg	tgctccgc	cgcctcgata	aaaggctccg	gggcccggcgg	360
	cggcccacga	gctacccgga	ggagcggag	gcgc当地	ctagaactag	tggatccaa	420
	ggcccaactc	cccgaaccac	tcagggcct	gtggacagct	cacctagctg	ccatggtgct	480
	ctgggtgttc	ttctttgtga	tcctcaccct	cagcaacagc	tcccactgct	ccccacctcc	540
	ccctttgacc	ctcaggatgc	ggcggtat	cgatgc当地	ttcaccaaca	gctaccggaa	600
	ggtgctggcc	cagctgtccg	ccc当地	gctccaggac	atcctgaaca	ggcagcagg	660
	agagaggaac	caagagcaag	gagcataatg	actgcaggaa	ttcgatata	agcttatcgg	720
	ggtggcatcc	ctgtgacccc	tccc当地	ctctcctggc	cctggaaagtt	gccactccag	780
	tgc当地	ccttgc当地	ataaaattaa	gttgc当地	tttgtctgac	taggtgtcc	840
	tctataat	tatgggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	ggaaagacaa	900

CowCulling.ST25.txt

cctgttagggc	ctgcggggc	tattgggaac	caagctggag	tgcagtggca	caatcttggc	960
tcactgcaat	ctccgcctcc	tgggttcaag	cgattctcct	gcctcagcct	cccgagttgt	1020
tgggattcca	ggcatgcatg	accaggctca	gctaattttt	gttttttgg	tagagacggg	1080
gtttcaccat	attggccagg	ctggctccta	actcctaatac	tcaggtgatc	tacccacctt	1140
ggcctccaa	attgctggga	ttacaggcgt	gaaccactgc	tcccttcctt	gtccttctga	1200
ttttaaaata	actataccag	caggaggacg	tccagacaca	gcataggcta	cctggccatg	1260
cccaaccggt	gggacatttgc	agttgcttgc	ttggcactgt	cctctcatgc	gttgggtcca	1320
ctcagtagat	gcctgttcaa	ttcgataccg	tcgacctcga	gggggggccc	ggtaccagct	1380
tttgccttcc	tttagtgaggg	ttaatttcga	gcttggcgta	atcatggtca	tagctgttc	1440
ctgtgtgaaa	ttgttatccg	ctcacaattc	cacacaacat	acgagccgga	agcataaaagt	1500
gtaaaggcctg	gggtgcctaa	tgagtgagct	aactcacatt	aattgcgttg	cgctcaactgc	1560
ccgctttcca	gtcgggaaac	ctgtcgtgcc	agctgcatta	atgaatcggc	caacgcgcgg	1620
ggagaggcgg	tttgcgtatt	ggcgcttcc	ccgcttcctc	gctcaactgac	tcgctgcgt	1680
cggtcgttcg	gctgcggcga	gcggtatcag	ctcactcaa	ggcgtaata	cggttatcca	1740
cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaa	aggccagcaa	aaggccagga	1800
accgtaaaaaa	ggccgcgttg	ctggcgcccc	tccataggct	ccgccccccct	gacgagcatc	1860
acaaaaatcg	acgctcaagt	cagaggtggc	gaaacccgac	aggactataa	agataccagg	1920
cgtttccccc	tggaagctcc	ctcgtgcgt	ctccgttcc	gaccctgccc	cttaccggat	1980
acctgtccgc	ctttccccc	tcgggaagcg	tggcgcttcc	tcatagctca	cgctgttaggt	2040
atctcagttc	ggtgttaggtc	gttcgctcca	agctggctg	tgtgcacgaa	ccccccgttc	2100
agcccgaccg	ctgcgcctta	tccggttaact	atcgcttga	gtccaacccg	gtaagacacg	2160
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgtaggcg	2220
gtgctacaga	gttcttgaag	tggggccta	actacggcta	cactagaaga	acagtatttgc	2280
gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaag	agttggtagc	tcttgcgttcc	2340
gcaaacaac	caccgctggt	agcggtggtt	ttttgttttgc	caagcagcag	attacgcgc	2400
aaaaaaaagg	atctcaagaa	gatccttga	tctttctac	ggggtctgac	gctcagaaga	2460
actcgtaag	aaggcgatag	aaggcgatgc	gctgcgaatc	gggagcggcg	ataccgtaaa	2520
gcacgaggaa	gcggtcagcc	cattcgccgc	caagcttcc	agcaatatac	cgggttagcca	2580
acgctatgtc	ctgatagcgg	tccgccacac	ccagccggcc	acagtcgtatc	aatccagaaa	2640
agcggccatt	ttccaccatg	atattcggca	agcaggcatc	gccatgggtc	acgacgagat	2700
cctcgccgtc	gggcatgcgc	gccttgcgt	tggcgaacag	ttcggctggc	gcgagccccc	2760
gatgctcttc	gtccagatca	tcctgatcga	caagaccggc	ttccatccga	gtacgtgctc	2820
gctcgatgcg	atgtttcgct	tggtggtcga	atgggcaggt	agccggatca	agcgtatgca	2880
gccgccccat	tgcatacgcc	atgatggata	ctttctcgcc	aggagcaagg	tgagatgaca	2940

CowCulling.ST25.txt

ggagatcctg	ccccggcact	tcgcccata	gcagccagtc	ccttcccgct	tcagtgacaa	3000
cgtcgagcac	agctgcgcaa	ggaacgccc	tcgtggccag	ccacgatagc	cgcgctgcct	3060
cgtcctgcag	ttcattcagg	gcaccggaca	ggtcggtctt	gacaaaaaga	accgggggcc	3120
cctgcgctga	cagccggaac	acggcggcat	cagagcagcc	gattgtctgt	tgtgccag	3180
catagccgaa	tagcctctcc	acccaagcgg	ccggagaacc	tgcgtgcaat	ccatcttgtt	3240
caatcatgcg	aaacgatcct	catcctgtct	cttgatcaga	tcttgatccc	ctgcgccatc	3300
agatccttgg	cgccaagaaa	gccatccagt	ttactttgca	gggcttccca	accttaccag	3360
agggcgcccc	agctggcaat	tccgggtcgc	ttgctgtcca	taaaaccgcc	cagtctagca	3420
actgttggga	agggcgatcg	gtgcgggcct	cttcgctatt	acgccagctg	gcaaagggg	3480
gatgtgctgc	aaggcgatta	agttggtaa	cgccagggtt	ttcccaagtca	cgac	3534

<210> 15
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Plasmid sequence for wildtype GHRH.

<400> 15	gttgtaaaac	gacggccagt	gaattgtaat	acgactcact	atagggcgaa	ttggagctcc	60
	accgcggtgg	cggccgtccg	ccctcggcac	catcctcact	acacccaaat	atggcgacgg	120
	gtgaggaatg	gtggggagtt	attttagag	cggtgaggaa	ggtgggcagg	cagcaggtgt	180
	tggcgctcta	aaaataactc	ccgggagtt	tttttagagc	ggaggaatgg	tggacaccca	240
	aatatggcga	cggttcctca	cccgtcgcca	tatttgggtg	tccgcccctcg	gccggggccg	300
	cattcctggg	ggccgggcgg	tgctccgc	cgcctcgata	aaaggctccg	gggcccggcgg	360
	cggcccacga	gctacccgga	ggagcggag	gcgc当地	ctagaactag	tggatccaa	420
	ggcccaactc	cccgaaccac	tcagggtcct	gtggacagct	cacctagctg	ccatggtgct	480
	ctgggtgttc	ttctttgtga	tcctcaccct	cagcaacagc	tcccactgct	ccccacctcc	540
	cccttgcacc	ctcaggatgc	ggcggtatgc	agatgccatc	ttcaccaaca	gctaccggaa	600
	ggtgctggc	cagctgtccg	cccgcaagct	gctccaggac	atcatgagca	ggcagcaggg	660
	agagaggaac	caagagcaag	gagcataatg	actgcaggaa	ttcgatata	agcttatcgg	720
	ggtggcatcc	ctgtgacccc	tccccagtgc	ctctcctggc	cctggaaatt	gccactccag	780
	tgcaccag	ccttgcctta	ataaaattaa	gttgcata	tttgtctgac	taggtgtcct	840
	tctataat	tatgggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	ggaaagacaa	900
	cctgtaggc	ctgcggggtc	tattggaaac	caagctggag	tgcagtggca	caatcttggc	960
	tcactgcaat	ctccgcctcc	tgggttcaag	cgatttcct	gcctcagcct	cccgagttgt	1020
	tgggattcca	ggcatgcatg	accaggctca	gctaatttt	gttttttgg	tagagacggg	1080
	gtttcaccat	attggccagg	ctggtctcca	actcctaatac	tcaggtgatc	tacccacctt	1140

CowCulling.ST25.txt

ggcctccaa attgctggga ttacaggcgt gaaccactgc tcccttcct gtccttctga	1200
ttttaaaata actataccag caggaggacg tccagacaca gcataaggcta cctggccatg	1260
cccaaccggt gggacatttg agttgcttgc ttggcaactgt cctctcatgc gttgggtcca	1320
ctcagtagat gcctgttcaa ttcgataccg tcgacctcga gggggggccc ggtaccagct	1380
tttgccttgc tttagtgaggg ttaattcga gcttggcgta atcatggtca tagctgttgc	1440
ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt	1500
gtaaaggcctg gggtgccctaa tgagtgagct aactcacatt aattgcgttgc cgctcactgc	1560
ccgccttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg	1620
ggagaggcgg tttgcgtatt gggcgctt cgccttcctc gctcaactgac tcgctgcgt	1680
cggtcgttcg gtcgcggcga gcggtatcag ctcactcaa ggcggtaata cggttatcca	1740
cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga	1800
accgtaaaaaa ggccgcgttg ctggcgttt tccataggct ccgcggccct gacgagcatc	1860
acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg	1920
cgtttccccc tggaaagctcc ctcgtgcgtc ctccgttcc gaccctgcgg cttaccggat	1980
acctgtccgc ctttctccct tcgggaagcg tggcgcttgc tcatacgctca cgctgttaggt	2040
atctcagttc ggtgttaggtc gttcgctcca agctggctg tgtgcacgaa ccccccgttc	2100
agcccgaccg ctgcgcctta tccggtaact atcgcttga gtccaaacccg gtaagacacg	2160
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg	2220
gtgctacaga gttctgaag tggggccta actacggcta cactagaaga acagtatttg	2280
gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgcgttcc	2340
gcaaacaac caccgctgt agcggtggtt ttttggggca caagcagcag attacgcgc	2400
aaaaaaaagg atctcaagaa gatccttga tctttctac ggggtctgac gctcagaaga	2460
actcgtaag aaggcgatag aaggcgatgc gtcgcgaatc gggagcggcgt ataccgtaaa	2520
gcacgaggaa gcggtcagcc cattcgccgc caagcttttc agcaatatca cgggtagcca	2580
acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgtatc aatccagaaa	2640
agcggccatt ttccaccatg atattcgca agcaggcatc gccatgggtc acgacgagat	2700
cctcgccgtc gggcatgcgc gccttgcgttcc tggcgaaacag ttcggctggc gcgagccct	2760
gatgctcttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgcgt	2820
gctcgatgcg atgtttcgct tggtggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgcgcgtatc tgcatcagcc atgatggata ctttctcgcc aggagcaagg tgagatgaca	2940
ggagatcctg ccccgact tcgccccata gcagccagtc ccttcccgct tcagtgcacaa	3000
cgtcgagcac agctgcgcaaa ggaacgccccg tcgtggccag ccacgatagc cgctgcgt	3060
cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accggcgcc	3120
cctgcgcgtga cagccggaaac acggcgcat cagagcagcc gattgtctgt tgtgcccagt	3180

CowCulling.ST25.txt

catagcccaa tagcctctcc	acccaagcgg	ccggagaacc	tgcgtgcaat	ccatcttgtt	3240
caatcatgcg	aaacgatcct	catcctgtct	cttgatcaga	tcttgcattcc	3300
agatccttgg	cggcaagaaa	gccatccagt	ttactttgca	gggcttccc	3360
agggcgcccc	agctggcaat	tccggttcgc	ttgctgtcca	taaaaccgcc	3420
actgttggga	agggcgatcg	gtgcgggcct	cttcgctatt	acgccagctg	3480
gatgtgctgc	aaggcgatta	agttggtaa	cgccagggtt	ttcccagtca	3534

<210> 16
<211> 4260
<212> DNA
<213> Artificial sequence

<220>
<223> Sequence for the pSP-SEAP cDNA.

<400> 16	ggccgtccgc	cttcggcacc	atcctcacga	cacccaaata	tggcgacggg	tgaggaatgg	60
	tggggagtt	tttttagagc	ggtgaggaag	gtgggcaggc	agcaggtgtt	ggcgctctaa	120
	aaataactcc	cgggagttat	tttttagagcg	gaggaatggt	ggacacccaa	atatggcgac	180
	ggttcctcac	ccgtcgccat	atttgggtgt	ccgcccctcg	ccggggccgc	attcctgggg	240
	gccgggcggt	gctcccgccc	gcctcgataa	aaggctccgg	ggccggcgcc	ggcccacgag	300
	ctacccggag	gagcgggagg	cgccaagctc	tagaactagt	ggatcccccg	ggctgcagga	360
	attcgatatac	aagcttcgaa	tcgcaattc	gcccaccatg	ctgctgctgc	tgctgctgct	420
	gggcctgagg	ctacagctct	ccctggcat	catcccagtt	gaggaggaga	acccggactt	480
	ctggAACCGC	gaggcagccg	aggccctggg	tgccgccaag	aagctgcagc	ctgcacagac	540
	agccgccaag	aacctcatca	tcttcctggg	cgatggatg	gggtgtctta	cggtgacagc	600
	tgccaggatc	ctaaaagggc	agaagaagga	caaactgggg	cctgagatac	ccctggccat	660
	ggaccgcttc	ccatatgtgg	ctctgtccaa	gacatacaat	gtagacaaac	atgtgccaga	720
	cagtggagcc	acagccacgg	cctacctgtg	cgggtcaag	ggcaacttcc	agaccattgg	780
	cttgagtgca	gccgcccgt	ttaaccagt	caacacgaca	cgcggcaacg	aggtcatctc	840
	cgtgatgaat	cgggccaaga	aagcagggaa	gtcagtggg	gtggtaacca	ccacacgagt	900
	gcagcacgcc	tcgcccagccg	gcacccatgc	ccacacgggt	aaccgcaact	ggtactcgga	960
	cggccacgtg	cctgcctcg	cccggcagga	gggggtccag	gacatcgcta	cgcagctcat	1020
	ctccaacatg	gacattgacg	tgatcctagg	tggaggccga	aagtacatgt	ttcgcatggg	1080
	aaccccgac	cctgagttacc	catgtacta	cagccaaggt	gggaccaggc	tggacgggaa	1140
	gaatctggtg	caggaatggc	tggcgaagcg	ccagggtgcc	cggtatgtgt	ggaaccgcac	1200
	tgagctcatg	caggcttccc	tggacccgtc	tgtgacccat	ctcatgggtc	tctttgagcc	1260
	tggagacatg	aaatacgaga	tccaccgaga	ctccacactg	gacccctccc	tgatggagat	1320
	gacagaggct	gccctgcgcc	tgctgagcag	gaaccccccgc	ggcttcttcc	tcttcgtgga	1380

CowCulling.ST25.txt

gggtggtcgc atcgaccatg	gtcatcatga aagcagggct	taccggcac	tgactgagac	1440		
gatcatgttc	gacgacgcca	ttgagagggc	gggcagctc	accagcgagg	aggacacgct	1500
gagcctcgtc	actgccgacc	actcccacgt	cttctccccc	ggaggctacc	ccctgcgagg	1560
gagctccatc	ttcgggctgg	cccccggcaa	ggccgggac	aggaaggcct	acacggcct	1620
cctatacgg	aacggtccag	gctatgtgct	caaggacggc	gccccggcgg	atgttaccga	1680
gagcgagagc	gggagccccc	agtatcggca	gcagtcagca	gtgcccctgg	acgaagagac	1740
ccacgcaggc	gaggacgtgg	cgggtttcgc	gcgcggcccg	caggcgcacc	tggttcacgg	1800
cgtgcaggag	cagaccttca	tagcgcacgt	catggccttc	gccgcctgcc	tggagcccta	1860
caccgcctgc	gacctggcgc	ccccggcgg	caccaccgac	gccgcgcacc	cgggttactc	1920
tagagtcggg	gcggccggcc	gcttcgagca	gacatgataa	gatacattga	tgagtttgg	1980
caaaccacaa	ctagaatgca	gtaaaaaaa	tgctttattt	tgaaaattt	tgatgctatt	2040
gctttattt	taaccattat	aagctgcaat	aaacaagtta	acaacaacaa	ttgcattcat	2100
tttatgtttc	aggttcaggg	ggaggtgtgg	gaggttttt	aaagcaagta	aaacctctac	2160
aaatgtggta	aaatcgataa	ggatccgtcg	accgatgccc	ttgagagcct	tcaacccagt	2220
cagctccttc	cgggtggcgc	ggggcatgac	tatcgtcgcc	gcacttatga	ctgtcttctt	2280
tatcatgcaa	ctcgtaggac	aggtgccggc	agcgctttc	cgcttcctcg	ctcactgact	2340
cgctgcgctc	ggtcgttcgg	ctgcggcgag	cggtatcagc	tcactcaaag	gcggtaatac	2400
ggttatccac	agaatcaggg	gataacgcag	gaaagaacat	gtgagcaaaa	ggccagcaaa	2460
aggccaggaa	ccgtaaaaag	gccgcgttgc	tggcgaaaa	ccataggctc	cgccccctg	2520
acgagcatca	caaaaatcga	cgctcaagtc	agaggtggcg	aaacccgaca	ggactataaa	2580
gataccaggc	gtttccccct	ggaagctccc	tcgtgcgtc	tcctgttccg	accctgcccgc	2640
ttaccggata	cctgtccgccc	tttctccctt	cgggaagcgt	ggcgcttct	catagctcac	2700
gctgttaggt	tctcagttcg	gtgttaggtcg	ttcgctccaa	gctggctgt	gtgcacgaac	2760
cccccgttca	gcccgaccgc	tgcgccttat	ccggtaacta	tcgtcttgag	tccaaacccgg	2820
taagacacga	tttatcgcca	ctggcagcag	ccactggtaa	caggattagc	agagcgaggt	2880
atgttaggcgg	tgctacagag	ttcttgaagt	ggtggctaa	ctacggctac	actagaagga	2940
cagtatttgg	tatctgcgt	ctgctgaagc	cagttacctt	cgaaaaaaga	gttggtagct	3000
cttgatccgg	caaacaaacc	accgctggta	gcggtggttt	ttttgttgc	aagcagcaga	3060
ttacgcgcag	aaaaaaagga	tctcaagaag	atcctttgat	cttttctacg	gggtctgacg	3120
ctcagtggaa	cgaaaaactca	cgttaaggga	ttttggtcat	gagattatca	aaaaggatct	3180
tcaccttagat	cctttaaat	taaaaatgaa	gttttaaatc	aatctaaagt	atatatgagt	3240
aaacttggtc	tgacagttac	caatgcttaa	tcagtgaggc	acctatctca	gcgatctg	3300
tatccatgttc	atccatagtt	gcctgactcc	ccgtcgtgt	gataactacg	atacgggagg	3360
gcttaccatc	tggcccccagt	gctgcaatga	taccgcgaga	cccacgctca	ccggctccag	3420

CowCulling.ST25.txt

atttatcagc aataaaaccag ccagccggaa gggccgagcg cagaagtggt cctgcaactt	3480
tatccgcctc catccagtct attaattgtt gccgggaagc tagagtaagt agttcgccag	3540
ttaatagttt gcgcaacgtt gttgccattg ctacaggcat cgtggtgtca cgctcgctgt	3600
ttggtatggc ttcattcagc tccggttccc aacgatcaag gcgagttaca tgatccccca	3660
tgttgc当地 aaaaagcggtt agctccttcg gtcctccgat cggtgtcaga agtaagttgg	3720
ccgcagtgtt atcaactcatg gttatggcag cactgcataa ttctcttact gtcatgccat	3780
ccgtaagatg ctttctgtg actggtgagt actcaaccaa gtcattctga gaatagtgt	3840
tgcggcgacc gagttgctct tgcccgccgt caatacggga taataccgcg ccacatagca	3900
gaactttaaa agtgctcatc attggaaaac gttttcgggg gcgaaaactc tcaaggatct	3960
taccgctgtt gagatccagt tcgatgtAAC ccactcggt acccaactga tcttcagcat	4020
cttttacttt caccagcggtt tctgggttag caaaaacagg aaggcaaaat gccgcaaaaa	4080
agggaataag ggcgacacgg aatgttgaa tactcataact cttcctttt caatattatt	4140
gaagcattta tcagggttat tgtctcatga gcggatacat atttgaatgt atttagaaaa	4200
ataaacaat aggggttccg cgcacatttc cccgaaaagt gccacctgac gcccctgt	4260

<210> 17
<211> 2710
<212> DNA
<213> artificial sequence

<220>
<223> Codon optimized ("GHRH") sequence for mouse.

<400> 17 tgtaatacga ctcactatacg ggcgaattgg agctccaccg cggggcggc cgtccgcct	60
cggcaccatc ctcacgacac ccaaataatgg cgacgggtga ggaatggtgg ggagttat	120
tttagagcggt gaggaagggtg ggcaggcagc aggtgttggc gctctaaaaa taactccgg	180
gagttatccc tagagcggtg gaatggtggc cacccaaata tggcgcggc tcctcacc	240
tcgccccatatt tgggtgtccg ccctcgccg gggccgcatt cctgggggccc gggcggt	300
cccgcccccc tcgataaaaag gctccggggc cggccggc ccacgagcta cccggaggag	360
cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac	420
agctcaccta gctgccatgg tgctctgggt gctttgtg atcctcatcc tcaccagcgg	480
cagccactgc agcctgcctc ccagccctcc cttcaggatg cagaggcagc tggacgc	540
cttcaccacc aactacagga agctgctgag ccagctgtac gccaggaagg tgatccagga	600
catcatgaac aagcaggcg agaggatcca ggagcagagg gccaggctga gctgataagc	660
ttatcggtt ggcattccctg tgacccctcc ccagtgcctc tcctggccct ggaagtt	720
actccagtgc ccaccagcct tgtcctaata aaattaagtt gcatcattt gtctgactag	780
gtgtccttct ataatattat ggggtggagg ggggtggat ggagcaaggg gcaagttggg	840
aagacaacct gtagggctcg agggggggcc cggtaaccgc ttttggccc ttttagtgagg	900

CowCulling.ST25.txt

gttaatttcg	agcttggtct	tccgcttcct	cgctcaactga	ctcgctgcgc	tcggtcgttc	960
ggctgcggcg	agcggtatca	gctcaactcaa	aggcggtaat	acggttatcc	acagaatcag	1020
gggataacgc	aggaaagaac	atgtgagcaa	aaggccagca	aaaggccagg	aaccgtaaaa	1080
aggccgcgtt	gctggcgttt	ttccataggc	tccgcccccc	tgacgagcat	cacaaaaatc	1140
gacgctcaag	tcagaggtgg	cgaaacccga	caggactata	aagataccag	gcgtttcccc	1200
ctggaagctc	cctcgtgcgc	tctcctgttc	cgaccctgcc	gcttaccgga	tacctgtccg	1260
cctttctccc	ttcgggaagc	gtggcgctt	ctcatagctc	acgctgttagg	tatctcagtt	1320
cggtgttaggt	cgttcgctcc	aagctgggct	gtgtgcacga	accccccgtt	cagcccgacc	1380
gctgcgcctt	atccggtaac	tatcgcttg	agtccaaaccc	ggtaaagacac	gacttatcgc	1440
cactggcagc	agccactggt	aacaggatta	gcagagcggag	gtatgttaggc	ggtgctacag	1500
agttcttcaa	gtggtggcct	aactacggct	acactagaag	aacagtattt	ggtatctgcg	1560
ctctgtcaa	gccagttacc	ttcggaaaaaa	gagttggtag	ctcttgatcc	ggcaaacaaaa	1620
ccaccgctgg	tagcggtggt	ttttttgttt	gcaaggcagca	gattacgcgc	agaaaaaaaag	1680
gatctcaaga	agatcctttg	atctttctta	cggggcttagc	gcttagaaga	actcatccag	1740
cagacggtag	aatgcaatac	gttgagagtc	tggagctgca	ataccataca	gaaccaggaa	1800
acggtcagcc	cattcaccac	ccagttcctc	tgcaatgtca	cggtagcca	gtgcaatgtc	1860
ctggtaacgg	tctgcaacac	ccagacgacc	acagtcaatg	aaaccagaga	aacgaccatt	1920
ctcaaccatg	atgttccggca	ggcatgcattc	accatgagta	actaccaggt	cctcaccatc	1980
cggcatacga	gcttcagac	gtgcaaacag	ttcagccggt	gccagaccct	gatgttcctc	2040
atccaggtca	tcctggtcaa	ccagacctgc	ttccatacgg	gtacgagcac	gttcaatacg	2100
atgtttgccc	ttgtggtcaa	acggacaggt	agctgggtcc	agggtgtgca	gacgacgcat	2160
tgcatcagcc	atgatagaaaa	ctttctctgc	cgagccagg	tgagaagaca	gcaggcctg	2220
acccggaact	tcacccagca	gcagccagtc	acgaccagct	tcaactaacta	catccagaac	2280
tgcagcacac	ggaacaccag	tgggtgccag	ccaagacaga	cgagctgctt	catcctgcag	2340
ttcattcaga	gcaccagaca	ggtcagtttt	aacaaacaga	actggacgac	cctgtgcaga	2400
cagacggaaa	acagctgcat	cagagcaacc	aatggtctgc	tgtgcccagt	cataacaaa	2460
cagacgttca	acccaggctg	ccggagaacc	tgcattcaga	ccatcctgtt	caatcatgcg	2520
aaacgatcct	catcctgtct	cttgatcaga	tcttgatccc	ctgcgcacatc	agatccttgg	2580
cggcaagaaa	gccatccagt	ttactttgca	gggcttccca	accttaccag	agggcgcccc	2640
agctggcaat	tccggttcgc	ttgctgtcca	taaaaccgcc	cagtctagca	actgttggga	2700
agggcgtatcg						2710

<210> 18
 <211> 2713
 <212> DNA
 <213> artificial sequence

CowCulling.ST25.txt

<220>
<223> Codon optimized ("GHRH") sequence for rat.
<400> 18
tgtaatacga ctcactatacg ggcgaattgg agctccaccg cggtgtgcggc cgtccgcct 60
cggcaccatc ctcacgacac ccaaataatgg cgacgggtga ggaatggtgg ggagttattt 120
tttagagcggt gaggaagggtg ggcaggcagc aggtgttggc gctctaaaaa taactccgg 180
gagttatTTT tagagcggag gaatggtgga cacccaaata tggcgacggt tcctcaccgg 240
tcgccccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggccc gggcggtgct 300
cccggccccc tcgataaaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360
cgggaggcgc caagcggatc ccaaggccca actccccaa ccactcaggg tcctgtggac 420
agctcaccta gctgcccattt ccctgtgggt gttcttcgtg ctgctgaccc tgaccagcgg 480
aagccactgc agcctgcctc ccagccctcc cttcagggtg cgccggcacg ccgacgccc 540
tttcaccagc agctacagga ggatcctggg ccagctgtac gctaggaagc tcctgcacga 600
gatcatgaac aggccggcagg gcgagaggaa ccaggagcag aggagcaggt tcaactgata 660
agcttatcgg ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaaagtt 720
gccactccag tgcccaccag ctttgccta ataaaattaa gttgcatcat tttgtctgac 780
taggtgtcct tctataatat tatggggtgg aggggggtgg tatggagcaa gggcaagtt 840
gggaagacaa cctgttagggc tcgagggggg gcccggtacc agctttgtt cccttagtg 900
agggttaatt tcgagcttgg tcttcgcctt cctcgctcac tgactcgctg cgctcggtcg 960
ttcggctgcg gcgagcggta tcagctcact caaaggcggt aatacggta tccacagaat 1020
cagggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta 1080
aaaaggccgc gttgctggcg ttttccata ggctccggcc ccctgacgag catcacaaaa 1140
atcgacgctc aagtcaaggagg tggcgaaacc cgacaggact ataaagatac caggcgttc 1200
cccctggaaag ctccctcggt cgctctccgt ttccgaccct gccgcttacc ggataacctgt 1260
ccgccttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt aggtatctca 1320
gttcgggtgtaa ggtcggtcgc tccaaagctgg gctgtgtgca cgaacccccc gttcagcccg 1380
accgctgcgc cttatccggta aactatcgtc ttgagtccaa cccggtaaga cacgacttat 1440
cgccactggc agcagccact ggtaacagga ttagcagagc gaggtatgtaa ggcgggtcta 1500
cagagttctt gaagtgggtgg cctaaactacg gctacactag aagaacagta tttggtatct 1560
gcgctctgct gaagccagtt accttcggaa aaagagttgg tagcttttga tccggcaaac 1620
aaaccaccgc tggtagcggt ggttttttg tttcaagca gcagattacg cgccggaaaaaa 1680
aaggatctca agaagatcct ttgatctttt ctacggggct agcgctttaga agaactcatc 1740
cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag 1800
gaaacggtca gcccattcac cacccagttc ctctgcaatg tcacgggttag ccagtcaat 1860
gtcctggtaa cggtctgcaa cacccagacg accacagtca atgaaaccag agaaacgacc 1920

CowCulling.ST25.txt

attctcaacc	atgatgttcg	gcaggcatgc	atcaccatga	gtaactacca	ggtcctcacc	1980
atccggcata	cgagcttca	gacgtgaaa	cagttcagcc	ggtgccagac	cctgatgttc	2040
ctcatccagg	tcatcctgg	caaccagacc	tgctccata	cgggtacgag	cacgttcaat	2100
acgatgttt	gcctgggtgt	caaacggaca	ggtagctgg	tccagggtgt	gcagacgacg	2160
cattgcatca	gccatgatag	aaacttctc	tgccggagcc	aggtgagaag	acagcaggtc	2220
ctgaccgg	acttcaccca	gcagcagcca	gtcacgacca	gcttcagtaa	ctacatccag	2280
aactgcagca	cacggaacac	cagtggttgc	cagccaagac	agacgagctg	cttcatcctg	2340
cagttcattc	agagcaccag	acaggtcagt	tttaacaaac	agaactggac	gaccctgtgc	2400
agacagacgg	aaaacagctg	catcagagca	accaatggtc	tgctgtgccc	agtataacc	2460
aaacagacgt	tcaacccagg	ctgccggaga	acctgcacgc	agaccatcct	gttcaatcat	2520
gcgaaacgt	cctcatcctg	tctcttgc	agatcttgc	cccctgcgcc	atcagatcct	2580
tggccgcaag	aaagccatcc	agtttacttt	gcagggcttc	ccaaccttac	cagagggcgc	2640
cccagctggc	aattccgg	cgcttgctgt	ccataaaacc	gcccagtcta	gcaactgttg	2700
ggaaggcga	tcg					2713

<210> 19
<211> 2716
<212> DNA
<213> artificial sequence

<220>
<223> Codon optimized ("GHRH") sequence for bovine.

<400> 19	ccaccgcgg	ggcggccgtc	cgccctcg	accatcctca	cgacacccaa	atatggc	60				
	gggtgaggaa	tggtggggag	ttat	tttag	agcggtgagg	aagg	gtggca	120			
	gttggcg	ctc	taaaaataac	tcccggagt	tat	tttaga	gcggaggaat	180			
	caaata	atggc	gacgg	ttcc	cacccgtc	gc	catat	ttgg	tgtccgc	240	
	cgcatt	cctg	ggggccgg	gg	tgc	ccc	gc	ttc	cg	300	
	ggcggccc	ac	gag	ctaccc	gg	agg	gc	cc	gg	360	
	cccgaacc	ac	tc	agg	gttgc	ac	cac	gt	gggtgtt	420	
	ttc	ctggt	cc	ctgacc	ct	gac	cc	gttgc	cc	480	
	aggat	cc	ta	gttgc	cc	gac	cc	gttgc	cc	540	
	ctg	agc	gttgc	cc	acc	ac	ac	gttgc	cc	600	
	gag	ggggc	cc	tttgc	cc	tttgc	cc	tttgc	cc	660	
	tc	ctgg	cc	tttgc	cc	tttgc	cc	tttgc	cc	720	
	g	ca	tttgc	cc	tttgc	cc	tttgc	cc	tttgc	cc	780
	gg	gg	tttgc	cc	tttgc	cc	tttgc	cc	tttgc	cc	840
	ttt	gttccc	ttt	gttgc	tttgc	tttgc	tttgc	tttgc	tttgc	tttgc	900

CowCulling.ST25.txt

ctcgctgcgc	tcggtcgttc	ggctgcggcg	agcggtatca	gctcaactaa	aggcggtaat	960
acggttatcc	acagaatca	gggataacgc	aggaaagaac	atgtgagcaa	aaggccagca	1020
aaaggccagg	aaccgtaaaa	aggccgcgtt	gctggcgaaa	ttccataggc	tccgcccccc	1080
tgacgagcat	cacaaaaatc	gacgctcaag	tcagaggtgg	cgaaacccga	caggactata	1140
aagataccag	gcgttcccc	ctggaagctc	cctcgtgcgc	tctcgttcc	cgaccctgcc	1200
gcttaccgga	tacctgtccg	ccttctccc	ttcgggaagc	gtggcgctt	ctcatagctc	1260
acgctgttagg	tatctcagtt	cggtgttagt	cgttcgctcc	aagctggct	gtgtgcacga	1320
accccccgtt	cagcccgacc	gctgcgcctt	atccggtaac	tatcgcttgc	agtccaaccc	1380
ggtaagacac	gacttatcgc	caactggcagc	agccactgg	aacaggatta	gcagagcgag	1440
gtatgttaggc	ggtgctacag	agttcttgc	gtggtggcct	aactacggct	acactagaag	1500
aacagtattt	ggtatctgcg	ctctgctgaa	gccagttacc	ttcggaaaaaa	gagttggtag	1560
ctcttgcgtcc	gacaaacaaa	ccaccgctgg	tagcggtgg	tttttgggtt	gcaaggcagca	1620
gattacgcgc	agaaaaaaag	gatctcaaga	agatccttgc	atctttctca	cggggctgtga	1680
cgctcagcta	gcgctcagaa	gaactcgtca	agaaggcgat	agaaggcgat	gcgctgcgaa	1740
tcgggagcgg	cgataccgta	aagcacgagg	aagcggtcag	cccattcgcc	gccaaagctct	1800
tcagcaatat	cacgggttagc	caacgctatg	tcctgatagc	ggtccgcccac	acccagccgg	1860
ccacagtcga	tgaatccaga	aaagcggcca	tttccacca	tgatattcgg	caagcaggca	1920
tcgcccgttag	tcacgacgag	atcctcgccg	tcgggcatgc	gcgccttgc	cctggcgaac	1980
agttcggtcg	gcgcgagccc	ctgatgctct	tcgtccagat	catcctgatc	gacaagaccg	2040
gcttccatcc	gagtacgtgc	tcgctcgatg	cgatgttgc	cttggtggtc	aatgggcag	2100
gtagccggat	caagcgtatg	cagccgccc	attgcatcag	ccatgatgga	tacttctcg	2160
gcaggagcaa	ggtgagatga	caggagatcc	tgcccccggca	cttcgccccaa	tagcagccag	2220
tccctcccg	tttcgtgtac	aacgtcgagc	acagctgcgc	aaggaacgccc	cgtcgtggcc	2280
agccacgata	gccgcgctgc	ctcgccctgc	agttcattca	gggcacccgga	caggtcggtc	2340
ttgacaaaaaa	gaaccggggcg	cccctgcgt	gacagccgga	acacggcgcc	atcagagcag	2400
ccgattgtct	gttgtgccc	gtcatagccc	aatagcctct	ccacccaagc	ggccggagaa	2460
cctgcgtgca	atccatcttg	ttcaatcatg	cgaaacgatc	ctcatcctgt	ctcttgcgtca	2520
gatctgtatc	ccctgcgcca	tcagatcctt	ggcggcaaga	aagccatcca	gtttactttg	2580
cagggcttcc	caaccttacc	agagggcgcc	ccagctggca	attccgggttc	gcttgctgtc	2640
cataaaaccg	cccagtctag	caactgttgg	gaagggcgat	cgtgtataatac	gactcaactat	2700
agggcgaatt	ggagct					2716

<210> 20
 <211> 2716
 <212> DNA
 <213> artificial sequence

CowCulling.ST25.txt

<220>
<223> TCodon optimized ("GHRH") sequence for ovine.

<400> 20		
ccaccgcggt ggcggccgtc cgccctcgcc accatcctca cgacacccaa atatggcgac	60	
gggtgaggaa tggtgtggag ttattttag agcggtgagg aaggtggca ggcagcaggt	120	
gttggcgctc taaaataac tcccgaggat tattttaga gcggaggaat ggtggacacc	180	
caaatatggc gacggttcct caccgtcgc catattggg tgtccgcct cggccgggc	240	
cgcattcctg ggggcccggc ggtgctcccg cccgcctcga taaaaggctc cggggccggc	300	
ggcggcccac gagctacccg gaggagcggg aggcgccaag cgatccaa ggcccaactc	360	
cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct gtgggtgttc	420	
ttcctggta ccctgaccct gaggcggca agccacggca gcctgcccag ccagccctg	480	
aggatcccta ggtacgcccga cccatcttc accaacagct acaggaagat cctggccag	540	
ctgagcgcta ggaagctcct gcaggacatc atgaacaggc agcagggcga gaggaaccag	600	
gagcagggcg cctgataagc ttatcgggtt ggcattccctg tgacccctcc ccagtgcctc	660	
tcctggccct ggaagttgcc actccagtgc ccaccagcct tgccttaata aaattaagtt	720	
gcatcatttt gtctgactag gtgtccttct ataatattat ggggtggagg ggggtggat	780	
ggagcaaggg gcaagttggg aagacaacct gtagggctcg agggggggcc cggtaccagc	840	
ttttgttccc ttagtgagg gttatattcg agcttggtct tccgcttcct cgctactga	900	
ctcgctgcgc tcggcgttc ggctgcggcg agcgtatca gctactcaa aggccgtaa	960	
acggttatcc acagaatcag gggataacgc agggaaacac atgtgagcaa aaggccagca	1020	
aaaggccagg aaccgtaaaa aggccgcgtt gctggcggtt ttccataggc tccgcccccc	1080	
tgacgagcat cacaatcc gacgctcaag tcagagggtgg cgaaacccga caggactata	1140	
aagataccag gcgtttcccc ctggaaagctc cctcgtgcgc tctcctgttc cgaccctgcc	1200	
gcttaccggc tacctgtccg ccttctccc ttccggaaagc gtggcgcttt ctcatagctc	1260	
acgctgttagg tatctcagtt cggtgttagt cggtcgctcc aagctggct gtgtgcacga	1320	
accccccgtt cagccgacc gctgcgcctt atccggtaac tatcgtctt agtccaaccc	1380	
ggtaagacac gacttatcgc cactggcagc agccactggt aacaggatta gcagagcag	1440	
gtatgttaggc ggtgctacag agttttgaa gtgggtggct aactacggct acactagaag	1500	
aacagtattt ggtatctgcg ctctgctgaa gccagttacc ttccggaaaaa gagttggtag	1560	
ctcttgcgtcc gacaaacaaa ccaccgcgtt tagcggtggt tttttgttt gcaagcagca	1620	
gattacgcgc agaaaaaaag gatctcaaga agatccccc atctttctt cggggctgtga	1680	
cgctcagcta ggcgtcagaa gaactcgta agaaggcgat agaaggcgat ggcgtgcgaa	1740	
tcgggagcgg cgataccgtt aagcacgagg aagcggtcag cccattcgcc gccaagctct	1800	
tcagcaatat cacggtagc caacgctatg tcctgatagc ggtccgcac acccagccgg	1860	
ccacagtcga tgaatccaga aaagcggcca tttccacca tgatattcgg caagcaggca	1920	

CowCulling.ST25.txt

tcgcccattgag	tcacgacgag	atcctcgccg	tcgggcatgc	gcgccttgag	cctggcgaac	1980
agttcggtctg	gcgcgagccc	ctgatgctct	tcgtccagat	catcctgatc	gacaagaccg	2040
gcttccatcc	gagtacgtgc	tcgctcgatg	cgatgttcg	cttgggtggc	gaatggcag	2100
gtagccggat	caagcgtatg	cagccgcccgc	attgcatcag	ccatgatgga	tactttctg	2160
gcaggagcaa	ggtgagatga	caggagatcc	tgcccccggca	cttcgccccaa	tagcagccag	2220
tcccttccc	tttcagtgac	aacgtcgagc	acagctgcgc	aaggaacgccc	cgtcggtggcc	2280
agccacgata	gccgcgctgc	ctcgccctgc	agttcattca	gggcaccggc	caggtcggtc	2340
ttgacaaaaaa	gaaccggggcg	cccctgcgct	gacagccggc	acacggcggc	atcagagcag	2400
ccgattgtct	gttgtgccc	gtcatagccg	aatagcctct	ccacccaa	ggccggagaa	2460
cctgcgtgca	atccatctt	ttcaatcatg	cgaaacgatc	ctcatccgt	ctcttgatca	2520
gatcttgatc	ccctgcgcca	tcagatcctt	ggcggcaaga	aagccatcca	gtttacttt	2580
cagggcttcc	caaccttacc	agagggcgcc	ccagctggca	attccggg	gcttgctgtc	2640
cataaaaccg	cccagtctag	caactgttgg	gaagggcgat	cgtgtata	actcactat	2700
agggcgaatt	ggagct					2716

<210> 21
 <211> 2713
 <212> DNA
 <213> artificial sequence

<220>
 <223> Codon optimized ("GHRH") sequence for chicken.

<400> 21	tgtaatacga	ctcactatag	ggcgaattgg	agctccaccg	cgggtggcggc	cgtccgcctt	60
	cggcaccatc	ctcacgacac	ccaaatatgg	cgacgggtga	ggaatgggtgg	ggagttat	120
	ttagagcggt	gaggaaggtg	ggcaggcagc	aggtgttggc	gctctaaaaaa	taactccgg	180
	gagttat	tagagcggag	aatgggtgga	cacccaaata	tggcgcacgg	tcctcacc	240
	tcgccatatt	tgggtgtcc	ccctcgcc	gggcccatt	cctggggg	ggcgggtg	300
	cccgccgccc	tcgataaaag	gctccggg	cgccggcggc	ccacgagcta	cccggaggag	360
	cgggaggcgc	caagcggatc	ccaaggccca	actcccgaa	ccactcagg	tcctgtggac	420
	agctcaccta	gctgccatgg	ccctgtgggt	gttcttgg	ctgctgaccc	tgaccc	480
	aagccactgc	agcctgccac	ccagcccacc	cttccgcgtc	aggcgccacg	ccgacggcat	540
	cttcagcaag	gcctaccgca	agtccttgg	ccagctgagc	gcacgcaact	acctgcacag	600
	cctgatggcc	aagcgcgtgg	gcagcggact	gggagacgag	gccgagcccc	tgagctgata	660
	agcttatcgg	ggtggcatcc	ctgtgaccc	tccccagtgc	ctctccctggc	cctggaa	720
	gccactccag	tgcccacc	ccttgccta	ataaaattaa	gttgcata	tttgtctgac	780
	taggtgtcct	tctataat	tatgggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	840
	gggaagacaa	cctgtagg	tcgaggggg	gcccggtacc	agctttgtt	ccctttagtg	900

CowCulling.ST25.txt

<210> 22
<211> 55
<212> DNA
<213> artificial sequence

CowCulling.ST25.txt

<220>
<223> Sequence for 5' UTR of hGH.

<400> 22
caaggccaa ctccccgaac cactcagggt cctgtggaca gctcacctag ctgcc 55

<210> 23
<211> 782
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence of a plasmid pUC-18 origin of replicaiton

<400> 23
tcttcgctt cctcgctcac tgactcgctg cgctcggtcg ttccggctgctg gcgagcggta 60
tcagctcact caaaggcggt aatacggtt tccacagaat cagggataa cgccaggaaag 120
aacatgtgag caaaaaggcca gcaaaaaggcc aggaaccgta aaaaggccgc gttgctggcg 180
ttttccata ggctccgccc ccctgacgag catcacaaaa atcgacgctc aagtcaagg 240
tggcgaaacc cgacaggact ataaaagatac caggcgtttc ccccttggaaag ctccctcg 300
cgctctcctg ttccgaccctt gccgcttacc ggataccctgt ccgccttctt cccttcggga 360
agcgtggcgc tttctcatag ctcacgctgt aggtatctca gttcggtgtt ggtcg 420
tccaaagctgg gctgtgtgca cgaacccccc gttcagcccg accgctgcgc cttatccggt 480
aactatcgtc ttgagtccaa cccggtaaga cacgacttat cgccactggc agcagccact 540
ggtaacagga ttagcagagc gaggtatgtt ggcggtgcta cagagttctt gaagtgg 600
cctaactacg gctacactag aaggacagta tttggtatct ggcgtctgct gaagccagtt 660
accttcggaa aaagagttgg tagcttttga tccggcaaac aaaccaccgc tggtagcggt 720
ggtttttttgg tttgcaagca gcagattacg cgcagaaaaa aaggatctca agaagatcct 780
tt 782

<210> 24
<211> 5
<212> DNA
<213> artificial sequence

<220>
<223> This is a NEO ribosomal binding site

<400> 24 5
tcctc

<210> 25
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence of a prokaryotic PNEO promoter.

<400> 25
accttaccag agggcgcccc agctggcaa 29

CowCulling.ST25.txt

<210> 26
<211> 3558
<212> DNA
<213> artificial sequence

<220>
<223> Sequence for the inducible pGR1774 with human GHRH

<400> 26
atgcctggag acgccccatcca cgctgtttt acctccatag aagacaccgg gaccgatcca 60
gcctccgcgg ccgggaacgg tgcattggaa cgccggattcc ccgtgttaat taacaggtaa 120
gtgtcttcct cctgtttcct tccccgtcta ttctgctcaa ctttcctatc agaaaactgca 180
gtatctgtat ttttgcttagc agtaatacta acgggttcttt ttttctcttc acaggccacc 240
atgtagaact agtgatccca aggcccaact ccccgaaacca ctcagggtcc tgtggacagc 300
tcaccttagct gccatggtgc tctgggtgtt cttctttgtg atcctcaccc tcagcaacag 360
ctcccactgc tccccacccctc cccctttgac cctcaggatg cggcggatg cagatgccat 420
cttcaccaac agctaccgga aggtgctggg ccagctgtcc gcccgcgaagc tgctccagga 480
catcatgagc aggccagg gagagagcaa ccaagagcga ggagcataat gactgcagga 540
attcgatatac aagcttatcg gggtggcatc cctgtgaccc ctccccagtg cctcttcctgg 600
ccctggaagt tgccactcca gtgcccacca gccttgcct aataaaaatta agttgcatca 660
ttttgtctga ctaggtgtcc ttctataata ttatgggtg gaggggggtg gtatggagca 720
agggcaagt tgggaagaca acctgttaggg cctgcgggt ctattggaa ccaagctgga 780
gtgcagtggc acaatcttgg ctcactgcaa tctccgcctc ctgggttcaa gcgattctcc 840
tgcctcagcc tcccggatgg ttgggattcc aggcatgcat gaccaggctc agctaatttt 900
tggggggggc gtagagacgg ggttccacca tattggccag gctggctcc aactcctaatt 960
ctcagggtat ctaaccaccc tggcctccca aattgctggg attacaggcg tgaaccactg 1020
ctcccttccc tgccttcctg attttaaaat aactatacca gcaggaggac gtccagacac 1080
agcataggct acctggccat gcccacccgg tgggacattt gagttgcttg cttggcactg 1140
tcctctcatg cttgggtcc actcagttaga tgcctgtga attcgataacc gtcgaccccg 1200
agggggggcc cggtaaccgc ttttgttccc ttttagtgagg gtttattcg agcttggcgt 1260
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca 1320
tacgagccgg aagcataaaag tgtaaagccct ggggtgccta atgagtgagc taactcacat 1380
taattgcgtt gcgctcactg cccgcttcc agtcggaaa cctgtcgtgc cagctgcatt 1440
aatgaatcggtt ccaacgcgcg gggagaggcg gtttgcgtat tgggcgtct tccgcttcct 1500
cgctcactga ctcgctgcgc tcggtcgttc ggctgcggcg agcggtatca gctcactcaa 1560
aggcgttaat acggttatcc acagaatcag gggataacgc agggaaagaac atgtgagcaa 1620
aaggccagca aaaggccagg aaccgtaaaa aggccgcgtt gctggcgttt ttccataggc 1680
tccgcccccc tgacgagcat cacaaaaatc gacgctcaag tcagaggtgg cgaaacccga 1740

CowCulling.ST25.txt

caggactata aagataaccag	gcgtttcccc	ctggaagctc	cctcgtgcgc	tctcctgttc	1800	
cgaccctgcc	gcttaccgga	tacctgtccg	cctttctccc	ttcgggaagc	gtggcgctt	1860
ctcatagctc	acgctgttagg	tatctcagtt	cggtgttaggt	cgttcgctcc	aagctgggct	1920
gtgtcacga	accccccgtt	cagcccgacc	gctgcgcctt	atccggtaac	tatcgtctt	1980
agtccaaaccc	ggtaagacac	gacttatcgc	caactggcagc	agccactggt	aacaggatta	2040
gcagagcgag	gtatgttaggc	ggtgctacag	agttcttcaa	gtggtggcct	aactacggct	2100
acactagaag	aacagtattt	ggtatctgcg	ctctgctcaa	gccagttacc	ttcggaaaaaa	2160
gagttggtag	ctcttgatcc	ggcaaaca	ccaccgctgg	tagcggtgg	ttttttgtt	2220
gcaaggcagca	gattacgcgc	agaaaaaaag	gatctcaaga	agatccttt	atctttcta	2280
cggggctctga	cgctcaga	aactcgtcaa	gaaggcgata	gaaggcgatg	cgctgcgaat	2340
cgggagcggc	gataccgtaa	agcacgagga	agcggtcagc	ccattcgccg	ccaagctt	2400
cagcaatatac	acgggttagcc	aacgctatgt	cctgatacg	gtccgcccaca	cccagccggc	2460
cacagtcgt	gaatccagaa	aagcggccat	tttccaccat	gatattcggc	aagcaggcat	2520
cgcctgggt	cacgacgaga	tcctcgccgt	cggcatgcg	cgcccttgagc	ctggcgaaca	2580
gttcggctgg	cgcgagcccc	tgatgcttt	cgtccagatc	atcctgatcg	acaagaccgg	2640
cttccatycg	agtacgtgct	cgctcgatgc	gatgttgc	ttggtggtcg	aatggcagg	2700
tagccggatc	aagcgtatgc	agccgccc	ttgcatcagc	catgatggat	actttctcg	2760
caggagcaag	gtgagatgac	aggagatcct	gccccggcac	ttcgcccaat	agcagccagt	2820
cccttccgc	ttcagtgaca	acgtcgagca	cagctgcgc	aggaacgccc	gtcggtggca	2880
gccacgatag	ccgcgctg	tcgtcctgca	gttcattcag	ggcacccggac	aggtcggtct	2940
tgacaaaaag	aaccgggcgc	ccctgcgt	acagccggaa	cacggcggca	tcagagcagc	3000
cgattgtctg	ttgtgcccag	tcatagccga	atagcctctc	cacccaagcg	gccggagaac	3060
ctgcgtgcaa	tccatcttgt	tcaatcatgc	gaaacgatcc	tcatcctg	tcttgatcg	3120
atcttgatcc	cctgcgc	cataccttg	gcggcaagaa	agccatccag	tttactttgc	3180
agggcttccc	aaccttacca	gagggcgccc	cagctggcaa	ttccggttcg	tttgctgtcc	3240
ataaaaccgc	ccagtctagc	aactgttggg	aagggcgatc	ggtgcgggccc	tcttcgttat	3300
tacgcccagct	ggcgaaagg	ggtatgtctg	caaggcgatt	aagttgggt	acgcccagggt	3360
tttcccgatc	acgacgttgt	aaaacgacgg	ccagtgaatt	gtaatacgac	tcactatagg	3420
gcgaattaaat	tcgagcttgc	atgcctgcag	ggtcgaagcg	gagtactgtc	ctccgagtgg	3480
agtactgtcc	tccgagcgga	gtactgtcct	ccgagtcgag	ggtcgaagcg	gagtactgtc	3540
ctccgagtgg	agtactgt					3558

<210> 27
 <211> 4855
 <212> DNA
 <213> artificial Sequence

CowCulling.ST25.txt

<220>
<223> Sequence for the muscle-specific GeneSwitch - pGS1633
<400> 27
agggggccgct ctagcttagag tctgcctgcc ccctgcctgg cacagccgt acctggccgc 60
acgctccctc acaggtgaag ctcgaaaact ccgtccccgt aaggagcccc gctgcccccc 120
gaggcctcct ccctcagccc tcgctgcgtc cccggctccc gcacggccct gggagaggcc 180
cccaccgctt cgtccttaac gggcccggcg gtgcccgggg attatttcgg ccccggcccc 240
gggggggccc ggcagacgct ctttatacgg cccggcctcg ctcacctggg ccgcggccag 300
gagcgcccttc tttgggcagc gccgggcccgg ggccgcgcgg ggcccacac ccaaataatgg 360
cgacggccgg ggccgcattc ctggggccgg ggcggtgctc ccgcccgcct cgataaaagg 420
ctccggggcc ggcgggcccac tcagatgcgc tggagacgcc atccacgctg tttgacctc 480
catagaagac accgggaccg atccagcctc cgcggccggg aacggtgcat tggAACgcgg 540
attccccgtg ttaattaaca ggtaagtgtc ttccctctgt ttccctcccc tgctattctg 600
ctcaacccctc ctatcagaaa ctgcagtatc tgtatTTTc ttagcagtaa tactaacgg 660
tcttttttc tcttcacagg ccaccaagct accggtccac catggactcc cagcagccag 720
atctgaagct actgtcttct atcgaacaag catgcgatat ttggccactt aaaaagctca 780
agtgctccaa agaaaaaccg aagtgcgcca agtgtctgaa gaacaactgg gagtgcgct 840
actctcccaa aaccaaaagg tctccgctga ctagggcaca tctgacagaa gtggaatcaa 900
ggctagaaag actggaacag ctatttctac tgatTTTcc tcgagaccag aaaaagttca 960
ataaagtccag agttgtgaga gcactggatg ctgttgctct cccacagccca gtggggcgttc 1020
caaatgaaag ccaagcccta agccagagat tcacttttc accaggtcaa gacatacagt 1080
tgattccacc actgatcaac ctgttaatga gcattgaacc agatgtgatc tatgcaggac 1140
atgacaacac aaaacctgac acctccagtt ctttgctgac aagtcttaat caactaggcg 1200
agaggcaact tcttcagta gtcaagtgggt ctaaatcatt gccaggtttt cgaaacttac 1260
atattgatga ccagataact ctcattcagt attcttgat gagcttaatg gtgtttggtc 1320
taggatggag atcctacaaa cacgtcagtg ggcagatgct gtatTTTca cctgatctaa 1380
tactaaatga acagcggatg aaagaatcat cattctattc attatgcctt accatgtggc 1440
agatcccaca ggagtttgc aagcttcaag ttagccaaga agagttccctc tgtatgaaag 1500
tattgttact tcttaataca attccTTTgg aagggctacg aagtcaaacc cagtttgagg 1560
agatgaggtc aagctacatt agagagctca tcaaggcaat tggTTTgagg caaaaaggag 1620
ttgtgtcgag ctcacagcgt ttctatcaac ttacaaaact tcttgataac ttgcattatc 1680
ttgtcaaaca acttcatctg tactgcttga atacattat ccagttccgg gcactgagtg 1740
ttgaatttcc agaaatgatg tctgaagttt ttgctgggtc gacgcccattt gaattccagt 1800
acctgccaga tacagacgat cgtcaccgga ttgaggagaa acgtaaaagg acatatgaga 1860
ccttcaagag catcatgaag aagagtccct tcagcgggacc caccgacccc cggcctccac 1920

CowCulling.ST25.txt

ctcgacgcat	tgctgtgcct	tcccgcagct	cagcttctgt	ccccaaagcca	gcacccca	1980
cctatccctt	tacgtcatcc	ctgagcacca	tcaactatga	tgagttccc	accatgggt	2040
ttccttctgg	gcagatcagc	caggcctcgg	ccttggcccc	ggccccc	caagtcc	2100
cccaggctcc	agccctgccc	cctgctccag	ccatggtac	agctctggcc	caggcccc	2160
cccctgtccc	agtcc	ccaggcc	ctcaggctgt	ggcccc	acccaa	2220
ccacccaggc	tgggaaagga	acgctgtcag	aggccctgct	gcagctgcag	tttgc	2280
aagacctggg	ggccttgctt	ggcaacagca	cagaccc	tgtttcaca	gac	2340
ccgtcgacaa	ctccgagttt	cagcagctgc	tgaaccagg	catacctgt	gc	2400
caactgagcc	catgctgat	gagtacc	aggctataac	tcgcctag	acagg	2460
agaggcccc	cgaccc	cctgctccac	tggggcccc	gggctcc	aatgg	2520
tttcaggaga	tgaagacttc	tcctccatt	cggacatg	cttctcag	ctg	2580
agatcagctc	ctaaggatcc	tccggact	aaaagccgaa	ttctgcag	attgg	2640
atccctgtga	ccc	gtgcctctcc	tggcc	agttgc	cc	2700
ccagccttgt	cctaataaaa	ttaagtt	tcatttgc	tgactag	tc	2760
atattatggg	gtggagg	gtggatg	gcaagg	agttgg	acaac	2820
gggctcgagg	ggggccc	taccag	ttt	agtgg	tttgc	2880
ttggcgtaat	catggtcata	gctgttcc	gtgtgaa	attgttcc	cacaatt	2940
cacaacatac	gagccg	cataa	aaagc	ctgg	tc	3000
ctcacattaa	ttgcgttgc	ctca	cttcc	cg	gtgt	3060
ctgcattaa	aatcggcc	acgcgc	aggcg	gtcg	tgc	3120
gcttcctcgc	tcactgactc	gctgcg	gtcg	tgc	gagc	3180
cactcaaagg	cggtaata	gttatcc	aatc	gagg	aaacat	3240
tgagcaaagg	gccag	aaaa	ggcc	cgtaaa	ccgc	3300
cataggctcc	gcccc	ctg	cc	gttgc	ttgc	3360
aacccgacag	gactataa	ataccagg	tttccc	gaag	ctc	3420
cctgttccga	ccctg	tacggata	ctgtcc	ttctcc	ggaa	3480
gcgc	tttctc	atagctc	ctgt	tc	gttgc	3540
ctggc	gtgt	gcac	cccc	ttat	ccac	3600
cgtctt	gagt	ccaac	ccgt	tggc	agc	3660
aggattagca	gagc	gaggt	tgtagg	gctac	actgt	3720
tacggctaca	ctagaagg	agtatt	ttctgc	tgct	gaag	3780
ggaaaaagag	ttgg	tagctc	ttgatcc	aaaca	ccg	3840
tttgc	tttgc	agc	acg	caga	aaaaagg	3900
tttctacgg	ggtctgac	tcaga	aga	aa	ggc	3960

CowCulling.ST25.txt

tgcaatcg	gagcggcgat	accgtaaagc	acgaggaagc	ggtcagccca	ttcgccgcca	4020
agctcttcag	caatatcacg	ggtagccaac	gctatgtcct	gatacggtc	cgccacaccc	4080
agccggccac	agtgcgtgaa	tccagaaaag	cggccat	ccaccatgtat	attcggtcaag	4140
caggcatcgc	catgcgtcac	gacgagatcc	tcgcccgtcg	gatgcgcgc	cttgagcctg	4200
gcaacagtt	cggctggcg	gagcccgtga	tgctttcg	ccagatcatc	ctgatcgaca	4260
agaccggctt	ccatccgagt	acgtgctcg	tcgatgcgt	gtttcgctt	gtggtcgaat	4320
gggcaggtag	ccggatcaag	cgtatgcagc	cgcgcattt	catcagccat	gatggatact	4380
tttcggcag	gagcaaggtg	agatgacagg	agatcctgc	ccggcacttc	gcccaatagc	4440
agccagtccc	ttcccgcttc	agtgacaacg	tcgagcacag	ctgcgcagg	aacgcccgtc	4500
gtggccagcc	acgatagccg	cgcgcctcg	tcctgcagtt	cattcagg	accggacagg	4560
tcggtcttga	caaaaagaac	cgggcgc	tgcgcgtaca	gccggacac	ggcggcatca	4620
gagcagccga	ttgtctgtt	tgcccagtca	tagccgaata	gcctctccac	ccaagcggcc	4680
ggagaacctg	cgtgcaatcc	atcttgc	atcatgcgaa	acgatcctca	tcctgtctct	4740
tgtatcagatc	ttgtatccc	gcccattcag	atccttgcg	gcaagaaagc	catccagttt	4800
actttgcagg	gcttcccaac	cttaccagag	ggcgaattcg	agcttgc	cctgc	4855

<210> 28
<211> 2739
<212> DNA
<213> artificial sequence

<220>
<223> Codon optimized plasmid for porcine GHRH.

<400> 28	ccaccgcgtt	ggcggccgtc	cgcgcctcg	accatcctca	cgacacccaa	atatggcgac	60	
	gggtgaggaa	tgggtgggag	ttat	tttag	agcggtgagg	aagggtggca	ggcagcagg	120
	gttggcgctc	taaaaataac	tcccggagt	tat	tttaga	gcggaggaat	ggtggacacc	180
	caaataatggc	gacggttcct	cacccgtcg	catat	ttggg	tgtccgc	cggccggg	240
	cgcattcctg	ggggccgggc	ggtgc	ccccc	ccgc	taaaagg	ctc	300
	ggcggcccac	gagctacccg	gaggagcgg	aggcgccaa	cgatccc	ggcccaactc	360	
	cccgaaccac	tca	gggtc	ctt	gtggacag	cac	ctgggtgtt	420
	ttctttgtga	tcctcacc	cagcaac	act	ccact	cc	cc	480
	ctcaggatgc	ggcggtatgc	agatgc	ccat	ccat	gctaccgg	ggtgc	540
	cagctgtccg	cccgc	aa	gt	cc	gg	gg	600
	caagagcaag	gagcataatg	actgcaggaa	ttcgat	atc	atcg	ggat	660
	ctgtgacccc	tccc	act	tc	tc	cc	cc	720
	ccttgccta	ataaaattaa	gttgc	cat	ttt	gtgc	tat	780
	tatgggtgg	agggggtgg	tatgg	gagcaa	gggg	caagtt	ggaa	840

CowCulling.ST25.txt

tcgagggggg gcccggtacc agctttgtt cccttagtg agggttaatt tcgagcttgg	900
tcttccgctt cctcgctcac tgactcgctg cgctcggtcg ttccggctgctg gcgagcggta	960
tcagctcaact caaaggcggt aatacggta tccacagaat caggggataa cgccaggaaag	1020
aacatgtgag caaaaaggcca gcaaaaaggcc aggaaccgta aaaaggccgc gttgctggcg	1080
ttttccata ggctccgccc ccctgacgag catcacaaaa atcgacgctc aagtcagagg	1140
tggcgaaaacc cgacaggact ataaaagatac caggcgtttc cccctggaag ctccctcg	1200
cgctctcctg ttccgaccct gccgcttacc ggataccctgt ccgccttct ccctcggga	1260
agcgtggcgc tttctcatag ctcacgctgt aggtatctca gttcggtgtt ggtcggtcg	1320
tccaagctgg gctgtgtgca cgaacccccc gttcagcccg accgctgcgc cttatccgg	1380
aactatcgtc ttgagtccaa cccggtaaga cacgacttat cgccactggc agcagccact	1440
ggttaacagga tttagcagagc gaggtatgtt ggcggtgcta cagagttctt gaagtgggtgg	1500
cctaactacg gctacactag aagaacagta tttggtatct gcgcctcg	1560
accttcggaa aaagagttgg tagctttga tccgacaaaac aaaccaccgc tggtagcggt	1620
ggtttttttgg tttgcaagca gcagattacg cgccggaaaa aaggatctca agaagatcct	1680
ttgatctttt ctacggggtc tgacgctcag cttagcgtca gaagaactcg tcaagaaggc	1740
gatagaaggc gatgcgctgc gaatcgggag cgccgatacc gtaaaggcact aggaagcgg	1800
cagcccatcc gcccggcaagc tcttcagcaa tatcacgggt agccaaacgct atgtcctgat	1860
agcggtccgc cacacccagc cggccacagt cgatgaatcc agaaaagcgg ccattttcca	1920
ccatgatatt cggcaagcag gcatcgccat gagtcacgac gagatcctcg ccgtcggca	1980
tgcgcgcctt gagcctggcg aacagttcggt ctggcgcgag cccctgatgc tttcgatcca	2040
gatcatcctg atcgacaaga ccggcttcca tccgagtgacg tgctcgctcg atgcgatgtt	2100
tcgcttggtg gtcgaatggg caggtagccg gatcaagcgt atgcagccgc cgcatcgat	2160
cagccatgat ggatacttcc tcggcaggag caagggtgaga tgacaggaga tcctgccccg	2220
gcacttcgccc caatagcagc cagtccttc ccgcgttca gacaacgtcg agcacagctg	2280
cgcaaggaac gcccgtcg	2340
ggacaggtcg gtcgttgc gcaatccatc ttgttcaatc atgcgaaacg	2400
ggaacacggc ggcattcagag cagccgattt tctgttgtgc ccagtcatag ccgaatagcc	2460
tctccaccca agcggccgga gaacctgcgt gcaatccatc ttgttcaatc atgcgaaacg	2520
atcctcatcc tgtcttttgc tcagatcttgc atccctgcg ccatcagatc cttggcggca	2580
agaaaagccat ccagtttact ttgcagggtt tcccaacctt accagagggc gccccagctg	2640
gcaattccgg ttgcgttgc gtcataaaaa ccgcccagtc tagcaactgt tggaaaggc	2700
gatcggttac tacgactcac tatagggcga attggagct	2739

CowCulling.ST25.txt

<212> DNA
<213> artificial sequence

<220>
<223> Codon optimized plasmid for GHRH expression.

<400> 29	
gttgtaaaac gacggccagt gaattgtat acgactcaact atagggcgaa ttggagctcc	60
accgcggtgg cggccgtccg ccctcggcac catcctcactg acacccaaat atggcgacgg	120
gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt	180
tggcgctcta aaaataactc ccggagatTA ttttagagc ggaggaatgg tggacaccca	240
aatatggcga cggttcctca cccgtcgcca tatttgggtg tccgcctcg gccggggccg	300
cattcctggg ggccgggccc tgctcccgcc cgcctcgata aaaggctccg gggccggccg	360
cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatccaa	420
ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgc	480
ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tcccactgct ccccacctcc	540
ccctttgacc ctcaggatgc ggcggcacgt agatgccatc ttcaccaaca gctaccggaa	600
ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcaggg	660
agagaggaac caagagcaag gagcataatg actgcaggaa ttgcataatca agcttatcgg	720
ggtggcatcc ctgtgacccc tccccagtgc ctctcctggc cctggaaatTT gccactccag	780
tgcccaccag ctttgtccta ataaaattaa gttgcataatcat tttgtctgac taggtgtcct	840
tctataatAT tatgggggtgg aggggggtgg tatggagcaa gggcaagtt gggaaagacaa	900
cctgttagggc ctgcggggtc tattggaaac caagctggag tgcaatggca caatcttggc	960
tcactgcaat ctccgcctcc tgggttcaag cgatttcct gcctcagcct cccgagttgt	1020
tgggattcca ggcattgcatt accaggctca gctaattttt gttttttgg tagagacggg	1080
gtttcaccat attggccagg ctggctccca actcctaatac tcaggtgatc taccacaccc	1140
ggcctccaa attgtggaa ttacaggcgt gaaccactgc tcccttcctt gtcctctga	1200
ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg	1260
cccaaccgggt gggacatttgc agttgcttgc ttggcactgt cctctcatgc gttgggtcca	1320
ctcagtagat gcctgttgaat ttgcataaccg tcgacccgtga gggggggccc ggtaccagct	1380
tttggccctt ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc	1440
ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaaagt	1500
gtaaagcctg ggggcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc	1560
ccgctttcca gtcgggaaac ctgtcgtgcc agctgcattta atgaatcgcc caacgcgcgg	1620
ggagaggcgg tttgcgtatt gggcgcttt ccgcttcctc gctcactgac tcgctgcgt	1680
cggtcgttcg gctgcggcga gcggtatcag ctcactaaa ggcggtaata cggttatcca	1740
cagaatcagg ggataacgcgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga	1800
accgtaaaaaa ggccgcgttg ctggcgTTT tccataggct ccgcggccct gacgagcatc	1860

CowCulling.ST25.txt

acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataaccagg	1920
cgtttcccccc tggaaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat	1980
acctgtccgc ctttctccct tcgggaagcg tggcgcttcc tcatacgctca cgctgttaggt	2040
atctcagttc ggtgttaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc	2100
agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg	2160
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgttaggcg	2220
gtgctacaga gttcttgaag tggtggccta actacggcta cactagaaga acagtatttgc	2280
gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgcgtccg	2340
gcaaacaacaccgcgttgtt agcgggtgtt ttttggggcaagcagcag attacgcgc	2400
gaaaaaaaaagg atctcaagaa gatccttga tcttttctac ggggtctgac gctcagaaga	2460
actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa	2520
gcacgaggaa gcggtcagcc cattgcgcgc caagcttttc agcaatatca cgggttagcca	2580
acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgtatc aatccagaaa	2640
agcggccatt ttccaccatg atattcggca agcaggcatc gccatgggtc acgacgagat	2700
cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttcggctggc gcgagccct	2760
gatgcttttc gtccagatca tcctgatcga caagaccggc ttccatccga gtacgtgtc	2820
gctcgatgcg atgtttcgtc tgggtggtcga atgggcaggt agccggatca agcgtatgca	2880
gccgcccgtatgcatc tgcattcggcc atgatggata ctttctcgcc aggagcaagg tgagatgaca	2940
ggagatccctg ccccgact tcgccaata gcagccgtc cttcccgct tcagtgacaa	3000
cgtcgagcac agctgcgcaa ggaacgcccgc tcgtggccag ccacgatagc cgccgtgcct	3060
cgtcctgcag ttcattcagg gcaccggaca ggtcggtctt gacaaaaaga accggggcgc	3120
cctgcgtga cagccggaaac acggcgcat cagagcagcc gattgtctgt tgtgcccagt	3180
catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccattttgtt	3240
caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgcgtcc ctgcgcgc	3300
agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag	3360
agggcgcccc agctggcaat tccgggttcgc ttgctgtcca taaaaccgcg cagtcttagca	3420
actgttggga agggcgatcg gtgcgggcct cttcgctatt acgcccagctg gcgaaagggg	3480
gatgtgtgc aaggcgatc aagggtttaa cgccagggtt ttcccatgtca cgac	3534

<210> 30
 <211> 2725
 <212> DNA
 <213> artificial sequence

<220>
 <223> Codon optimized plasmid for GHRH.

<400> 30
 tggaaatcgatcactatag ggcgaattgg agctccaccgc cggtggcggc cgtccgc
 Page 32

CowCulling.ST25.txt

cggcaccatc	ctcacgacac	ccaaatatgg	cgacgggtga	ggaatggtgg	ggagttattt	120
ttagagcggt	gaggaagggtg	ggcaggcagc	aggtgttggc	gctctaaaaa	taactcccgg	180
gagttatTTT	tagagcggag	aatggtgga	cacccaaata	tggcgacggt	tcctcacccg	240
tcgccccatatt	tgggtgtccg	ccctcggccg	gggcccgcatt	cctgggggccc	gggcggtgct	300
ccgcggcc	tcgataaaaag	gctccggggc	cgccggcggc	ccacgagcta	cccggaggag	360
cgggaggcgc	caagcggatc	ccaaggccca	actccccgaa	ccactcaggg	tcctgtggac	420
agctcaccta	gctgccatgg	tgctctgggt	gttcttctt	gtgatcctca	ccctcagcaa	480
cagctccac	tgctccccac	ctcccccttt	gaccctcagg	atgcggcggc	acgttagatgc	540
catttcacc	aacagctacc	ggaaggtgct	ggcccgactg	tccgccccca	agctgctcca	600
ggacatccgt	aacaggcagc	agggagagag	gaaccaagag	caaggagcat	aatgacatca	660
agcttatcgg	ggtggcatcc	ctgtgacccc	tccccagtg	ctctcctggc	cctggaagtt	720
gccactccag	tgcccaccag	ccttgcctta	ataaaattaa	gttgcatcat	tttgtctgac	780
taggtgtcct	tctataatat	tatggggtgg	aggggggtgg	tatggagcaa	ggggcaagtt	840
gggaagacaa	cctgttagggc	tcgagggggg	gcccggtacc	agctttgtt	cccttttagtg	900
agggttaatt	tcgagcttgg	tcttcgctt	cctcgctcac	tgactcgctg	cgctcggtcg	960
ttcggctgcf	gcgagcggta	tcagctca	caaaggcgg	aatacggta	tccacagaat	1020
cagggataa	cgcaggaaag	aacatgtgag	caaaaggcca	gcaaaaggcc	aggaaccgta	1080
aaaaggccgc	gttgctggcg	ttttccata	ggctccgccc	ccctgacgag	catcacaaaa	1140
atcgacgctc	aagtca	aggagg	tggcggaaacc	cgacaggact	ataaagatac	1200
cccccttggaa	ctccctcg	tg	cgctctcctg	ttccgaccct	gccgcttacc	1260
ccgcctttct	ccctcggga	agcgtggcgc	tttctcatag	ctcacgctgt	aggtatctca	1320
gttcggtgta	ggtcgttcgc	tccaagctgg	gctgtgtgca	cgaaccccccc	gttcagcccg	1380
accgctgcgc	tttatccggt	aactatcg	ttgagtccaa	cccgtaaga	cacgacttat	1440
cgccactggc	agcagccact	ggtaacagga	ttagcagagc	gaggtatgt	ggcggtgcta	1500
cagagttctt	gaagtggtgg	cctaactacg	gctacactag	aagaacagta	tttggtatct	1560
gcgcctcg	gaagccagtt	acttcgaa	aaagagttgg	tagctttga	tccgacaaac	1620
aaaccaccgc	tggtagcggt	ggtttttttg	tttgcagca	gcagattacg	cgcagaaaaa	1680
aaggatctca	agaagatcct	ttgatcttt	ctacggggtc	tgacgctcag	ctagcgctca	1740
gaagaactcg	tcaagaaggc	gatagaaggc	gatgcgctgc	gaatcggag	cgccgatacc	1800
gtaaagcacg	aggaagcgg	cagcccattc	gccgccaagc	tcttcagcaa	tatcacgggt	1860
agccaacgct	atgtcctgat	agcggccgc	cacaccagc	cggccacagt	cgtatgaatcc	1920
agaaaagcgg	ccatTTTCCA	ccatgatatt	cgccaaagcag	gcatcgccat	gagtca	1980
gagatcctcg	ccgtcgggca	tgcgccctt	gagcctggcg	aacagttcg	ctggcgccag	2040
ccccctgatgc	tcttcgtcca	gatcatcctg	atcgacaaaga	ccggcttcca	tccgagtacg	2100

CowCulling.ST25.txt

tgctcgctcg atgcgatgtt tcgcttggtg gtcgaatggg caggtagccg gatcaagcgt	2160
atgcagccgc cgcattgcat cagccatgtat ggatacttgc tcggcaggag caaggtgaga	2220
tgacaggaga tcctgccccg gcacttcgccc caatagcagc cagtccttc ccgcttcagt	2280
gacaacgtcg agcacagctg cgcaaggaac gcccgtcgtg gccagccacg atagccgcgc	2340
tgcctcgtcc tgcagttcat tcagggcacc ggacaggtcg gtcttgacaa aaagaaccgg	2400
gcgccttcgc gctgacagcc ggaacacggc ggcacatcagag cagccgattt tctgttgc	2460
ccagtcatag ccgaatagcc tctccaccca agcggccgga gaacctgcgt gcaatccatc	2520
ttgttcaatc atgcgaaacg atcctcatcc tgtcttttga tcagatcttgc atccctgcg	2580
ccatcagatc cttggcggca agaaagccat ccagttact ttgcagggtc tcccaacctt	2640
accagagggc gcgcgcagctg gcaattccgg ttcgcttgct gtccataaaa ccgcgcagtc	2700
tagcaactgt tggaaagggc gatcg	2725